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UNITED STATES PATENT AND TRADEMARK OFFICE

**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Ex parte STEPHEN MILLER

Appeal 2008-1815
Application 10/726,003
Technology Center 3600

Decided: September 5, 2008

Before ERIC GRIMES, RICHARD M. LEOVITZ, and JEFFREY N.
FREDMAN, *Administrative Patent Judges*.

FREDMAN, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 involving claims to a collapsible support structure which the Examiner has rejected as anticipated. We have jurisdiction under 35 U.S.C. § 6(b). We affirm.

Background

“It is well known in the art to provide collapsible support structures for a variety of applications, e.g., supporting other structures, e.g., expandable antennae, e.g., for transportation into and use in outer space, ease of construction of relatively rigid building frames, and supporting such things as tents” (Spec. 1).

Statement of the Case

The Claims

Claims 61 and 62 are on appeal. Claims 61 and 62 read as follows:

61. A collapsible support structure comprising
a plurality of interconnected frame sections each comprising
first and second elongated rigid members each having
first and second ends, said first ends of the first and second
elongated rigid members being operably connected together
to form a first flexible joint, and
a collapsible elongated member operably connected
between the second ends of the first and second elongated
rigid members, said collapsible elongated member having a
rigid state and a collapsed state and comprising
a pair of rigid tubular members having a portion
of an elongated flexible tensioning member extending
through said pair,
a rigidizing member mounted to move along
said pair, said rigidizing member being moveable into
a position to engage each rigid tubular member when
said rigid tubular members are essentially axially
aligned to form the rigid state of the collapsible
elongated member,
said tensioning member being operably connected
between the second ends of the first and second elongated
rigid members to form second flexible joints thereat, each

said second flexible joint being operably connected to an adjacent frame section.

62. A collapsible support structure comprising
a plurality of interconnected frame sections each comprising
a pair of elongated rigid members each having first and second ends, said first ends being operably connected by a flexible joint, and
a collapsible elongated member having a collapsed state and a rigid state, said collapsible elongated member including a pair of tubular members and an elongated flexible tensioning member extending through said tubular members and operably connected between the second ends of the first and second elongated rigid members and to adjacent frame sections to form at each second end a flexible joint.

The prior art

The Examiner relies on the following prior art reference to show unpatentability:

Brady US 5,423,341 Jun. 13, 1995

The issues

The rejection as presented by the Examiner is as follows:

Claims 61 and 62 stand rejected under 35 U.S.C. § 102(b), as being anticipated by Brady (Ans. 3).

35 U.S.C. § 102(b) rejection over Brady

Appellant argues that “the Examiner is improperly construing the disclosure of Brady in rejecting the claims on appeal because Brady fails to disclose forming the flexible joints from the tensioning member as required

by Applicant's claims" (App. Br. 13). Appellant further contends that "the joint 22 contemplated by Brady is not the same or equivalent to the joint used in Applicant's invention" (App. Br. 14). Appellant argues that "Brady's joints 22 are separate from his 'tensioning member' line 27. In other words, the Brady line 27 **does not function as a flexible joint and does not form the joints 22 of his structure.**" (App. Br. 18).

The Examiner responds that

Brady teaches the flexible tensioning member (26, 27, 30) is extended through opposite ends (66) of the pair of rigid tubular members (32) and operably connected to another end (68) of the rigid tubular member (32) of adjacent frame section (see Fig. 20) such that when pull up of the tensioning member (26, or 27) will flexibly tie adjacent frame sections together in an open position

(Ans. 5). The Examiner argues that "[A]ppellant does not claim the tensioning member directly connected, but 'operably connected' to the two elongated rigid members to form [] a second flexible joints therebetween. The phrase 'operably connected' claims two elements not necessary directly connected together but would be operable through other elements" (Ans. 6).

The Examiner contends that "the flexible joint may be not just including the elongated flexible tensioning member but would include other additional elements such as the hub member (45). In this case, the elongated flexible tensioning member (26) is considered forms a flexible joint as a part of the hub member" (Ans. 6).

In view of these conflicting positions, we frame the anticipation issue before us as follows:

Does the collapsible structure of Brady disclose a flexible joint as required by claim 61?

Findings of Fact (FF)

1. Brady teaches a “foldable tent framework of unitized construction” (Brady, col. 1, ll. 50-51).
2. Brady teaches “a plurality of elongated roof members pivotally connected at their upper ends to a central hub and at their lower ends to elongated wall members” (Brady, col. 2, ll. 20-22).
3. Brady teaches that the “pivotal joinder **42** of the lower ends **23** of adjacent wall members **39, 40** provides flexible pivotal interconnection by means of a segment of flexible material” (Brady, col. 6, l. 66 to col. 7, l. 1).
4. Brady teaches that another “means of providing tent stability . . . is utilized, is by the use of a plurality of elongated tubular eave members **32** . . . pivotally connected to . . . the pivotal connections **22** joining the roof members **11** and wall members **21**” (Brady, col. 6, ll. 11-19).
5. Brady teaches that “eave member sections **33, 34** as retained by the perimetric interconnection **26** threaded therethrough” (Brady, col. 6, ll. 28-30). Brady is disclosing that the two tubular members 33 and 34 have an elongated flexible tensioning member running through them (*see* Brady, fig. 3).
6. Brady teaches that a connection **38** between “member sections **33** and **34** may be accomplished in a variety of ways, a simple and effective manner being a connection where the end **35** of one eave member section **33** frictionally fits tightly within a ferrule **36** molded with or attached to end **37** of the adjacent eave member section **34**” (Brady, col. 6, ll. 41-47).

Discussion of 35 U.S.C. § 102(b) over Brady

Brady teaches a collapsible support structure (FF 1) which has two elongated rigid members that are operably connected at a first end to form a joint (FF 2-3). Brady further teaches a triangle formed using the elongated rigid members as two sides and a collapsible elongated member that is operably connected to the second end of the elongated rigid members (FF 4). Brady shows that the collapsible elongated member is composed of two rigid members with a flexible interconnection threaded inside (FF 5). Brady further teaches a ferrule that rigidizes the two rigid members of the collapsible elongated member to form a single extended rigid elongated member which forms a triangle with the two elongated rigid members (FF 6).

We conclude that the Examiner has set forth a prima facie case that claim 1 was anticipated by Brady.

Appellant argues that Brady “fails to disclose **forming the flexible joints from the tensioning member** as required by Applicant’s claims” (App. Br. 13). Appellant argues that “joint 22 is a separate structure and his line 27 does not function as a joint” (App. Br. 14).

In analyzing this issue, we first interpret the terms “tensioning member” and “operably connected”. We give these phrases their broadest reasonable interpretation. *See, e.g., In re Hyatt*, 211 F.3d 1367, 1372 (Fed. Cir. 2000) (“During examination proceedings, claims are given their broadest reasonable interpretation consistent with the specification.”). In the context of claim 61, the “tensioning member” has two requirements. First, “a pair of rigid tubular members having a portion of an elongated flexible

tensioning member extending through said pair” (Claim 61) indicates that the tensioning member must pass through two tubular members. Second, “said tensioning member being operably connected between the second ends of the first and second elongated rigid members to form second flexible joints thereat” (Claim 61) requires that there is some level of connection between the tensioning member and the two rigid members and that a flexible joint is formed. The term “operably connected” is not defined by the Specification and is reasonably interpreted as directly or indirectly connected, so long as the operation required can be performed.

Applying these interpretations to Brady, in our opinion, there is no doubt that perimetric interconnection 26 is threaded through a pair of rigid tubular members as first required by the “tensioning member” of claim 61 (*see* FF 5). Two different modes are shown in Brady for interconnection 26 in figures 6 and 20. In figure 20, interconnection 26 clearly does not extend through the entire length of the tubular members (*see* Brady, figure 20). However, in figure 6, interconnection 26 reasonably appears to extend through the tubular members and Brady notes that “perimetric interconnection 26 may include a line 27 . . . which continuously extends about the perimeter of raised tent frame 10 so as to form a loop whose perimeter length may be varied as required” (Brady, col. 5, ll. 33-37). This is reasonably interpreted as teaching that interconnection 26 extends to adjacent frame sections for tensioning. We also agree with the Examiner (Ans. 6) that while interconnection 26 may not be directly connected to the second ends of the elongated rigid members, interconnection 26 is “operably connected” as reasonably interpreted. There is no requirement for a direct

connection in claim 61 (*see* Claim 61). The second flexible joints are shown in Brady as any joints which are “operably connected” to interconnection 26, including joints shown in figure 4 at 42, or the joint between 39 and 40 (*see* Brady, fig. 4; *see also* FF3). We therefore conclude that Brady satisfies the “operably connected” requirement of the “tensioning member” of claim 61.

We are not persuaded by Appellant’s arguments that “the Brady structure fails to function in the same manner as Applicant’s structure” (App. Br. 18). However, the requirement is that Brady satisfy the claims, not the figures or Specification of Appellant. *See In re Self*, 671 F.2d 1344, 1348 (CCPA 1982) (“Many of appellant’s arguments fail from the outset because ... they are not based on limitations appearing in the claims”)

We affirm the rejection of claim 61 as anticipated by Brady. Pursuant to 37 C.F.R. § 41.37(c)(1)(vii)(2006), we also affirm the rejection of claim 62 as this claim was not argued separately.

CONCLUSION

In summary, we affirm the rejection of claim 61 as anticipated by Brady. Pursuant to 37 C.F.R. § 41.37(c)(1)(vii)(2006), we also affirm the rejection of claim 62 as this claim was not argued separately.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv)(2006).

AFFIRMED

LT/PL:dm

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